Experimental Program to Stimulate Competitive Research (EPSCoR)
Written Statement by Bonnie Neas to the Presidential Advisory Committee

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Professor Kennedy, Mr. Joy and members of the committee. I am Bonnie Neas, Director of Information Technology Services, North Dakota State University, and I am here today on behalf of my institution and the EPSCoR states.

First of all, we support and are excited about the potential opportunities the Next Generation Internet, Internet2, and other high performance computing and networking initiatives will bring. The impact of such initiatives will have strategic significance to this country for years or perhaps generations to come. The impact on rural areas will be particularly significant.

I have been active for the past ten years in national networking initiatives; such as, the National Science Foundation sponsored regional network, NorthWestNet, that provided Internet access to Alaska, Washington, Oregon; and, the EPSCoR states of Idaho, Montana and North Dakota. I have also served, numerous times in the past 8 years, as an NSF Connections program grant panelist for proposals requesting access to the Internet.

I am currently a Co-PI and North Dakota's project leader on the proposed NSF-EPSCoR Great Plains Network proposal--a 6-state high-speed network in support of 13 EPSCoR institutions. North Dakota State University is an Internet2 member and I serve as our institution's project leader for this service.

The North Dakota University System is comprised of 11 institutions of about 35,000 students geographically dispersed within 70,704 square miles and serving a base population of slightly fewer than 640,000 people -- one person for every 9 square miles. The original reason for the location of North Dakota institutions around the State was to insure that all citizens would have reasonable access to higher education. Because of the very rural nature of our state, access to information has always been very important.

On June 3, 1997, the Senate Commerce Subcommittee on Communications held a hearing on networking and connectivity. Much of the focus was on the needs of the rural areas and states. For us, the issues of connectivity are critical. Advanced computing and networking are our means of overcoming the limitations of geography. Participating fully in a research and educational community will also assist us in pursuing higher rankings as our environments evolve.

For example, Dr. Gwen Jacobs of Montana State University, most recently of the University of California-Berkeley, noted that although her laboratory is now in Bozeman, Montana, her primary scientific collaborators are distributed between San Diego, Pasadena and Tuebingen, Germany. She noted that, for her future work, she would need remote access to scientific databases, which are increasing in number; remote access to advanced research tools and "teleinstruments"; and the ability to create partnerships and collaborations among many scientists and researchers in distant places.

Dr. Cherri Pancake from Oregon State University noted that universities such as hers contribute significantly to national research, particularly in applied fields such as agriculture, engineering and natural resource management. Yet, she expressed concern about the need to ensure that participation is balanced and all major stakeholders are included.

I discussed the opportunities which projects such as the NSF-EPSCoR funded Great Plains Network can provide for multi-institution efforts. Such efforts are one part of putting the connectivity puzzle together.

But, we need your help. We need your help as Next Generation Internet and Internet2 move forward. We need the help of the federal departments and agencies which are charged with implementing the new initiatives, as well as managing on-going programs.

To meet our Internet2 and NSF-EPSCOR Great Plains Network obligations, we will see North Dakota University System's yearly costs to provide Internet access go from $150,000 a year to about $400,000 a year. This is in addition to our costs of providing campus and in-state networking support of about $500,000 a year. Therefore, conservatively we are estimating our annual cost for the next version of networking will be about $900,000 annually. Even then we are not assured of vBNS level connectivity. In addition, we have spent $6.2 million in the last three years updating our campus networking infrastructure. Our institution made a conscious decision that a good, sound infrastructure is imperative in order for us to be competitive in today's market.

We were optimistic that through our 6-state NSF-EPSCoR Great Plains Network we would be able to attain attractive prices from our telecommunications carriers. Our optimism soon dissolved from what we heard from the 3 leading long distance carriers at a February meeting in Kansas City. One problem apparently is a shortage of 1.6 million miles of fiber to deliver advanced Internet services. Those of us who live in the "distance disadvantaged" states were told not to count on discounts from quoted tarriffed rates.

Costs are clearly a major issue -- and one with which we need help the most. That is basic. And simply asking us to work with the carriers is not likely to solve the problem, especially in view of the fact that higher education was excluded from the National Universal Service Fund.

But there are also other important issues:

- We in the more rural areas need a voice in establishing computing and telecommunications policy for research and education. For example, if you design testbeds that exclude us your results will differ from the results you would get from testbeds which do include our areas. A connections or collaborations program that assists urban institutions or those in major telecommunications cities may simply not be sufficient for more rural areas.

- We need to be participants in research activities and in demonstration projects and programs.

- And, we need to be included in the development of partnerships, collaborations and similar opportunities that will arise from new computing and networking activities.

Again, we support a strong research agenda for a next generation Internet. We support the development of a new infrastructure and new applications. We want to be part of the initiative. Together we have everything to gain.